

**Summary Minutes of the U.S. Environmental Protection Agency
Science Advisory Board (SAB)
Advisory Council on Clean Air Compliance Analysis
Special Council Panel for the Review of the Third 812 Analysis
Advisory Teleconference
July 15, 2003 – Washington, DC**

Panel Members: See Roster (Attachment A)

Date and Time: 12:00 – 2:00 p.m. EDT, Tuesday, July 15, 2003

Location: U.S. Environmental Protection Agency
Ariel Rios Federal Building, Room 6013
1200 Pennsylvania Avenue NW
Washington, DC 20004

Purpose: For the Panel (1) to discuss the goals of the second prospective study and the scenarios described therein; (2) to discuss the Agency's plans for estimating direct costs; and (3) to receive a report from the AQMS on emissions.

Attendees:

Chair:	Dr. Trudy Cameron
Members:	Dr. David Allen Ms. Lauraine Chestnut Dr. Lawrence Goulder Dr. James Hammitt Dr. F. Reed Johnson Dr. Charles Kolstad Dr. Lester Lave Dr. Virginia McConnell Dr. V. Kerry Smith
Other SAB Members:	Dr. Allen Hansen Dr. Dale Hattis
Consultants:	Dr. John Evans Dr. D. Warner North Dr. Thomas S. Walsten
SAB Staff:	Dr. Angela Nugent

Other Persons Attending:

Ms. Lisa Conner, Office of Air Quality Planning and Standards (OAQPS), U.S. EPA
Mr. James DeMocker, Office of Air and Radiation (OAR), U.S. EPA
Mr. James Neumann, Industrial Economics (IEc)
Mr. Jason Price, Industrial Economics (IEc)
Mr. James Wilson, E.H. Pechan & Associates, Inc.

Meeting Summary

The meeting generally followed the schedule presented in the meeting agenda. (Attachment B)
The meeting adjourned at 2:00 p.m.

Opening of Meeting and Roll Call

Dr. Angela Nugent, Designated Federal Officer (DFO) for the Special Council Panel, called the roll and opened the meeting.

Welcome, Agenda Review, Deferral of Additional Discussion of Charge Question 1

Dr. Cameron welcomed panel members and reviewed the agenda; she noted that discussion of Charge Question 1 would be deferred, and that the panel would focus on the most urgent charge questions.

Update on Identification of Most Urgent Charge Questions Related to Report Development

Mr. James DeMocker, EPA, updated the panel, noting that Charge Questions 1 through 9 are all relatively urgent, with the exception of Question 8, as they can affect work that is already underway or about to begin (prior to the September meeting). He suggested revisiting or reconsidering the plan in order to provide advice on the first nine questions.

Initial Discussion of Scenario Development (Charge Question 2)

Dr. V. Kerry Smith led the discussion of Charge Question 2. He reviewed the two sets of notes that were distributed by email to panel members. He first addressed the 1990 baseline update and the proposed changes to reflect new emissions estimates. Dr. Smith suggested evaluation and comparison of the old baseline, the new baseline, and the 1990 monitored values to address model sensitivity and rescaling in the comparison of modeled and measured values.

Dr. Smith said that another important consideration related to the issue of economic conditions. He noted that he was not sure how EPA was characterizing overall aggregate economic conditions in estimating emission profiles. It was unclear, he said, how the economic slowdown

since 1999 and uncertainty about when there will be a return to a more robust growth pattern would be accounted. Dr. Smith also mentioned that an assumption related to household income growth was needed. Dr. Goulder concurred, saying that EPA needs to make the central case economic assumptions clear; Dr. Hattis also agreed and noted uncertainty in the relationship between emission rates and economic activity.

Dr. North mentioned his concern about a basic issue, namely, that assessments of the behavior of industry segments were “too close” to a small set of models. He was specifically concerned that the models are relatively aggregate, and were developed for different purposes than they are being used for here. He reiterated a past SAB recommendation for EPA to use alternative cost estimates as model checks, and recommended bringing in expert judgment on the issue, perhaps via a workshop.

Dr. Goulder noted that two issues were being discussed: Dr. Smith was suggesting a sensitivity analysis of the variance of the overall baseline, in terms of macroeconomic growth, while Dr. North was addressing the growth of sectors. Dr. North said that his concern was about the use of an analysis plan that begins with running the model, rather than with examination of the sensitivity of various cases and the model’s performance. Dr. Cameron urged Dr. North to prepare notes on his comments; he indicated that he could do so in a couple of weeks.

Returned to his points about Charge Question 2, Dr. Smith related his discussion of distinguishing pathways, or how air quality could be affected by changes in regulations, to Dr. North’s point. He suggested an analysis that holds air quality constant over various strategies to examine effects on different regions and industries. Dr. Smith’s then commented that the constructed baseline and constructed control do not reflect a real set of conditions. He asked about consistency between these hypothetical scenarios and other elements in the model, e.g., in the mechanisms used to calculate control costs. Dr. Smith said he did not find that the consistency requirements for evaluation of the components of the models had been adequately considered.

Dr. Cameron invited Ms. Chestnut to highlight her comments on Question 2. Ms. Chestnut said that she had a broader question about pathways, in that she was not sure of the policy usefulness of looking back at cost, and suggested that a more forward-looking examination of marginal costs would be more useful. She also said that it was interesting to see that the emissions projections are flat after 2000; the benefits of the Clean Air Act Amendments (CAAA) in 2010 and 2020 are through keeping air quality from getting worse, not in making things better.

Dr. Hammitt suggested that calling the scenarios with- and without-CAAA would be more accurate. Dr. Cameron agreed that this would be helpful, and also suggested that some sector-specific scenarios, where the CAAA were hypothetically removed from one sector at a time, would also be useful, as would supplemental scenarios with additional controls. She said that the third set of scenarios, on alternative pathways, were not helpful, and should either be better-

articulated, or perhaps omitted.

Dr. Smith noted that these points related to those he was making earlier: that sectoral changes cannot be done in isolation, and that the design of the scenarios will be affected by the assumptions on the aggregate economic issues. Dr. North noted that the electric utility sector will need to be considered in detail, and expressed his concern that EPA fully understands this problem and chooses the appropriate tools for the investigation.

Discussion of Cost Estimates

Dr. Kolstad, one of the lead discussants, began with his general comments. He said that the industrial sector does not seem to be completely treated in the models. Also, regarding learning, the use of the 80 percent rule for all sectors is a great oversimplification. Finally, he said, in the NAAQS attainment analysis, it appears that most of the process models do not take into account specific regulations to achieve ambient air quality. He suggested that the NAAQS analysis be supplemented to allow additional checks, noting that having several different models or approaches is valuable, not just for producing a best estimate, but for giving validity to the approach used.

In her comments, Dr. McConnell, the other lead discussant, recommended that indirect costs should be defined and made more explicit. She said that the accuracy of the forecast of costs needed to be checked, as it was critical for moving forward. Dr. McConnell recommended that EPA use individual industry studies to check how important costs are, and offered to prepare specific written points on this issue. She noted that the model used does not have a lot of regional breakdowns, and suggested that other models might provide a useful comparison.

Dr. Smith commented that there was not much evidence to support the 80 percent rule, and said he was concerned about the consistency of the adjustments made in different sectors and for aggregate economic responses. Regarding scenario design and consistency, in order to compare the costs from the first prospective study with the 2000 experience, the control scenario and its assumptions need to be compared with the reality of 2000. Systematic documentation of how the comparison is undertaken and how adjustments to cost are made is needed.

Dr. Goulder commented that due to variation by sectors in learning, he was not sure that there was a better approach than applying the 80 percent rule uniformly. Dr. Johnson said that he was not sure that a learning factor could be isolated. A panel member commented that the intent was to isolate a pure learning (technological change) effect. Dr. Smith noted that he has done a meta-analysis in this topic, and noted that one would want to look at the range of alternative values by sector and at the quality of the studies that would be used to document learning. Dr. Cameron suggested that Dr. Smith provide his meta-analysis to Mr. DeMocker; Dr. Smith agreed to do so.

Dr. Lave said that the panel wants EPA to give an unbiased best estimate of the likely effects;

since all the needed studies have not been done, he asked, what advice can the panel give to EPA about what they should do. Dr. Smith suggested using his report as the basis of an uncertainty analysis. Dr. North said that EPA should be carrying out sensitivity analyses, and looking carefully at whether the technology is mature or evolving, and then deviate accordingly from the 80 percent rule. He recommended that EPA aim its resources at the bigger issues, i.e., do more detailed analyses where costs are large, and apply rules of thumb when costs are more modest.

Initial Discussion of Computable General Equilibrium Models

Dr. Goulder, the lead discussant, commended EPA for its aim of including a computable general equilibrium (CGE) analysis and general equilibrium effects as part of the overall picture. He then made four specific points. First, Dr. Goulder asked if the CGE analysis should focus on costs alone, or be used to project emissions. He said that the emphasis on cost is fine, but recommended that EPA keep in mind Dr. Smith's earlier point about consistency.

Dr. Goulder then mentioned the relative importance of the CGE analysis compared to other analyses of costs, noting that the draft analytical plan seems to suggest that CGE models are being used only as a check on direct costs. General equilibrium effects should be of primary importance, he said. Dr. Goulder's third point related to the choice of CGE model. He endorsed the use of the Jorgenson/Wilcoxon/Ho model, saying that while it is not perfect, it captures much that is crucial to understanding general equilibrium. Moreover, it has been peer-reviewed, whereas the alternative, the AMIGA model, has not appeared in peer-reviewed journals, and would require close examination by the panel before it could be endorsed or recommended.

Dr. Goulder's final point related to the tax-interaction effect. Some indirect costs can be related to effects on technological change and other factors, while some can be due to the effects of environmental policy initiatives. He noted that the committee had expressed its disappointment that discussion of this effect was not given much status, and said he would endorse a commitment to devote more discussion to this effect in the next report. He noted that tax interactions can have a dramatic effect on cost, and the magnitude of the effect can depend on different aspects of the economic setting. Existence of uncertainty about the magnitude of the effect does not justify assuming that the mean is zero, he said.

Initial Discussion of Charge Question 9

The lead discussant, Dr. Goulder, noted that theoretically, when discounting future flows rather than utilities, the preferred approach uses the social rate of time preference, plus the assumption that future societies will be richer. A positive discount rate is used. EPA's notes indicate that OMB suggested the rate to use, he said, and much of it reflects taxation. It is effectively a transfer, not a real effect of the price of the future. Dr. Goulder recommended a procedure, namely, to start with a central rate, and then conduct an uncertainty or sensitivity analysis around it to get a low and a high value, which would be easier for readers to interpret.

The panel discussed specific attributes of the discount rate. Dr. Kolstad echoed the comment about not finding a perfect discount rate, but using a range. Dr. Smith said that the issue is two-fold: first, how to calculate the annualized costs associated with the introduction of compliance equipment, and second, the interaction between the importance assigned to understanding the discount rate and the detail of the scenarios.

Air Quality Modeling Subcommittee (AQMS) Draft Advisory on Emissions

Dr. David Allen, AQMS chair, reported that the AQMS met on June 12 regarding emissions issues. The AQMS is finalizing a set of findings and recommendations relating to the charge questions. The three main points in the Executive Summary and letter to the Administrator will be: a request to expand a number of elements of the documentation, particularly for the critical emission estimation methodology; a request for improvement of the PM emissions inventory; and a commendation for developing the framework for analysis of uncertainties, with encouragement to continue in that direction. Dr. Nugent commented that the draft will be circulated this week for comment. Individual comments will be compiled and distributed; if a teleconference is required, it will be held, if not, the report will be forwarded to the Administrator.

Preparation for Face-to-Face Council Meeting

Dr. Cameron noted that an updated set of assignments was distributed this morning by email. She said it would be helpful if panel members would make notes in advance and submit their comments. Lead discussants are assigned to provide written comments before the meeting. Dr. Nugent said that lead discussants should be prepared to speak to the charge question and to that part of the review document and to generate discussion. Following the discussion, they are responsible for capturing the sense of the discussion for inclusion in the report. There are multiple leads on some of the topics, and Drs. Cameron and Nugent welcome suggestions regarding assignments. Dr. Cameron urged panel members to work out among themselves the responsibilities for writing. Dr. Nugent reminded panel members that major substantive discussions need to occur in a public forum, and encouraged members to communicate via email, with a copy to her. Any discussion reaching a conclusion, even one about how to structure a response, needs to be considered an advisory topic, she said.

Dr. Cameron said that she and Dr. Nugent would prepare a designation of responsibility for taking notes on the sections. She reminded the panel that the meeting was scheduled for September 23-25 in Washington, DC, and indicated her hope that the panel would be writing its report on the third day. Dr. Cameron asked members to email Dr. Nugent if they feel that another conference call is required prior to the meeting. If not, she said, they should pull together their written materials for discussion in September.

The meeting was adjourned at 2:00 p.m.

Respectfully Submitted:

/s/ Angela Nugent, 9/30/03
Angela Nugent
Designated Federal Official

/s/ Trudy Cameron, 10/2/03
Certified as True: Trudy Cameron
Chair

Chair

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by the Council to the Agency during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect definitive consensus advice from the Council. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters, or reports prepared and transmitted to the EPA Administrator following the public meetings.

ATTACHMENTS

Attachment A	Roster of the Special Council Panel
Attachment B	Federal Register Notice
Attachment C	Meeting Agenda

Attachment A: Roster of the Special Council Panel

U.S. Environmental Protection Agency
Science Advisory Board
Advisory Council on Clean Air Compliance Analysis
Special Council Panel for the Review of the Third 812 Analysis

CHAIR

Dr. Trudy Cameron, Raymond F. Mikesell Professor of Environmental and Resource Economics, Department of Economics, University of Oregon, Eugene, OR
Also Member: Executive Committee

MEMBERS

Dr. David T. Allen, The Henry Beckman Professor in Chemical Engineering, Department of Chemical Engineering, University of Texas , Austin, TX

Ms. Lauraine Chestnut, Manager, Stratus Consulting Inc, Boulder , CO

Dr. Lawrence Goulder, Associate Professor, Department of Economics & Institute for International Studies, Stanford University, Stanford, CA
Also Member: Environmental Economics Advisory Committee

Dr. James Hammitt, Professor of Economics and Decision Sciences, Department of Health Policy and Management, School of Public Health, Harvard University, Boston, MA

Dr. F. Reed Johnson, Principal Economist and RTI Fellow, RTI Health Solutions, Research Triangle Institute, Research Triangle Park, NC

Dr. Charles Kolstad, Professor, Department of Economics, Bren School of Environmental Science and Management, University of California, Santa Barbara, CA

Dr. Lester B. Lave, Professor, Graduate School of Industrial Administration, Carnegie Mellon University, Pittsburgh, PA

Dr. Virginia McConnell, Senior Fellow; Professor of Economics, Resources for the Future, Washington, DC

Dr. Bart Ostro, Chief, Air Pollution Epidemiology Unit, California Office of Environmental

Health Hazard Assessment (OEHHA), Oakland, CA

Dr. V. Kerry Smith, University Distinguished Professor, Department of Agricultural and Resource Economics, College of Agriculture and Life Sciences, North Carolina State University, Raleigh, NC

OTHER SAB MEMBERS

Dr. Dale Hattis, Research Professor, Center for Technology, Environment, and Development, Marsh Institute, Clark University, Worcester, MA
Member: Environmental Health Committee

CONSULTANTS

Dr. John Evans, Senior Lecturer on Environmental Science, Harvard University, Portsmouth, NH

Dr. D. Warner North, President, North Works Inc, Belmont, CA

Dr. Thomas S Wallsten, Professor, Department of Psychology , University of Maryland, College Park, MD

SCIENCE ADVISORY BOARD STAFF

Dr. Angela Nugent, Designated Federal Officer, 1200 Pennsylvania Avenue, NW, Washington, DC, Phone: 202-564-4562, Fax: 202-501-0323, (nugent.angela@epa.gov)

Attachment B: Federal Register Notice

Science Advisory Board; Advisory Council on Clean Air
Compliance Analysis; Notification of Upcoming Public
Teleconferences

[Federal Register: July 1, 2003 (Volume 68, Number 126)]

[Notices]

[Page 39084-39085]

From the Federal Register Online via GPO Access [wais.access.gpo.gov]

[DOCID:fr01jy03-56]

ENVIRONMENTAL PROTECTION AGENCY

[FRL -7521-5]

Science Advisory Board; Advisory Council on Clean Air Compliance
Analysis; Notification of Upcoming Public Teleconferences

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: The EPA Advisory Council on Clean Air Compliance Analysis
(Council) is announcing two public teleconferences by its Special
Council Panel for the Review of the Third 812 Analysis and its
subcommittee, the Air Quality Modeling Subcommittee (AQMS).

DATES: July 11, 2003. A public teleconference call meeting for the AQMS
will be held from 11 a.m. to 12:30 p.m. (Eastern Time).

July 11, 2003: A public teleconference call meeting for the Special
Council Panel will be held from 12:30 p.m. to 2:30 p.m. (Eastern Time).

July 15, 2003: A public teleconference call meeting for the Special
Council Panel will be held from 12 p.m. to 2 p.m. (Eastern Time).

ADDRESSES: Participation in all teleconferences will be by
teleconference only. The meeting location for the September 23-24, 2003
meeting for the Special Council Panel will be held in Washington, DC.
The meeting location will be announced on the SAB Web site,
<http://www.epa.gov/sab> two weeks before the meeting.

FOR FURTHER INFORMATION CONTACT: Members of the public who wish to obtain the call-in number and access code to participate in any of the teleconference meetings may contact Ms. Sandra Friedman, EPA Science Advisory Board Staff, at telephone/voice mail: (202) 564-2526, via e-mail at: friedman.sandra@epa.gov. Any member of the public wishing further information regarding the Council, the Special Panel, or the AQMS may contact Dr. Angela Nugent, Designated Federal Officer (DFO), U.S. EPA Science Advisory Board by telephone/voice mail at (202) 564-4562 or via e-mail at nugent.angela@epa.gov. General information about the SAB can be found in the SAB Web site at <http://www.epa.gov/sab>.

SUPPLEMENTARY INFORMATION:

Background

Pursuant to the Federal Advisory Committee Act, Public Law 92-463, Notice is given that the Advisory

[[Page 39085]]

Council on Clean Air Compliance Analysis (Council) Special Council Panel for the Review of the Third 812 Analysis will hold two public teleconferences, as described above, on the Agency's plan to develop the second prospective study, the third in a series of statutorily mandated comprehensive analyses of the total costs and benefits of programs implemented pursuant to the Clean Air Act. Notice is also given that the Council's AQMS will hold a public teleconference. Background on the Council, its subcommittees, and on the advisory project was provided in a Federal Register notice published on February 14, 2003 (68 FR 7531-7534).

The Council Special Panel will be providing advice on a revised version of the document, ``Benefits and Costs of the Clean Air Act 1990-2020; Revised Analytical Plan for EPA's Second Prospective Analysis' currently found at the following Web site, maintained by EPA's Office of Air and Radiation at: <http://www.epa.gov/oar/sect812/>. An updated analytical plan and revised charge questions will be available on the Web site cited before the meeting. The AQMS will provide advice on emissions and air quality modeling as described in the Analytical Plan text dated May 12, 2003 and currently posted on the Web site cited immediately above.

Topics for Upcoming Meetings

At its public teleconference on July 11, 2003 the AQMS will discuss advice it developed on the Agency's plans to estimate emissions, a topic discussed by the AQMS at a meeting on June 12, 2003, previously announced in the Federal Register on June 5, 2003 (68 FR 33692).

At its public teleconference on July 11, 2003, the Special Council Panel will discuss the goals of the second prospective study and the scenarios described therein.

At the public teleconference on July 15, 2003, the Special Council Panel will discuss the Agency's plans for estimating direct costs described in the Analytical Plan and receive a report from the AQMS on emissions.

Agendas for the public teleconferences will be made available on the SAB Web site 10 days prior to the meeting.

Procedures for Providing Public Comment

It is the policy of the EPA Science Advisory Board (SAB) to accept written public comments of any length, and to accommodate oral public comments whenever possible. The EPA SAB expects that public statements presented at its meetings will not be repetitive of previously submitted oral or written statements. Oral Comments: In general, each individual or group requesting an oral presentation at a face-to-face meeting will be limited to a total time of ten minutes (unless otherwise indicated). For conference call meetings, opportunities for oral comment will usually be limited to no more than three minutes per speaker and no more than fifteen minutes total. Interested parties should contact the Designated Federal Official (DFO) at least one week prior to the meeting in order to be placed on the public speaker list for the meeting. Speakers may attend the meeting and provide comment up to the meeting time. Speakers should bring at least 35 copies of their comments and presentation slides for distribution to the participants and public at the meeting. Written Comments: Although the SAB accepts written comments until the date of the meeting (unless otherwise stated), written comments should be received in the SAB Staff Office at least one week prior to the meeting date so that the comments may be made available to the committee for their consideration. Comments should be supplied to the appropriate DFO at the address/contact information noted below in the following formats: one hard copy with original signature, and one electronic copy via e-mail (acceptable file format: Adobe Acrobat, WordPerfect, Word, or Rich Text files (in IBM-PC/Windows 95/98 format). Those providing written comments and who attend the meeting are also asked to bring 35 copies of their comments

for public distribution. Should comment be provided at the meeting and not in advance of the meeting, they should be in-hand to the DFO up to and immediately following the meeting.

Meeting Accommodations

Individuals requiring special accommodation to access these meetings, should contact the DFO at least five business days prior to the meeting so that appropriate arrangements can be made.

Dated: June 26, 2003.

Vanessa T. Vu,

Director, EPA Science Advisory Board Staff Office.

[FR Doc. 03-16576 Filed 6-26-03; 2:11 pm]

BILLING CODE 6560-50-P

Attachment C: Meeting Agenda

U.S. EPA Science Advisory Board (SAB) Advisory Council on Clean Air Compliance Analysis Special Council Panel for the Review of the Third 812 Analysis Advisory Teleconference July 15, 2003, 12:00-2:00 Eastern time

Purpose of Meeting: (1) To discuss the goals of the second prospective study and the scenarios described therein; (2) to discuss the Agency's plans for estimating direct costs ; and (3) to receive a report from the AQMS on emissions.

12:00-12:05 Opening of Meeting and Roll Call Dr. Angela Nugent, Designated Federal Officer, SAB Staff Office

12:05-12:10 Welcome, Agenda Review, Deferral of Additional Discussion of Charge Question 1 Dr. Trudy Cameron, Chair

12:10-12:15 Update on Identification of Most Urgent Charge Questions related to Report Development Mr. James DeMocker, EPA

12:15-12:30 Initial Discussion of Scenario Development (Charge Question 2)
Lead Discussant: Dr. V. Kerry Smith

12:30-1:05 Discussion of Cost Estimates, Charge Question 7
Lead Discussants: Dr. Virginia McConnell, Dr. Charles Kolstad

1:05-1:20 Initial Discussion of Computable General Equilibrium Models; Charge Question 8)
Lead Discussant: Dr. Lawrence Goulder

1:20-1:35 Initial Discussion of Discount Issues; Charge Question 9; Lead Discussant: Dr. Lawrence Goulder

1:35-1:40 Air Quality Modeling Subcommittee Draft Advisory on Emissions Dr. David Allen

1:40-2:00 Preparation for face-to-face Council Meeting

2:00 Adjournment of Meeting